

CLAIMS

1. A method to make new tooth tissue comprised of: 1) a porous matrix consisting of synthetic, biodegradable biocompatible polymer of an appropriate shape and spacing of 50 μm to 300 μm between polymer fibers; 2) the matrix degrades within seven weeks after implantation; 3) the matrix, when mixed with a suspension of tooth bud cells of sufficient amount, will generate tooth tissue following implantation into a host animal.

2. The method of claim 1 wherein the cells are derived from a six month-old porcine unerupted third molar.

10

3. The method of claim 1 wherein the polymer selected is among those that degrade over a period of less than twelve weeks consisting of poly(lactide), poly(glycolide), poly(L-lactide-co-glycolide), and other synthetic polymers.

15

4. The method of claim 1 wherein the engineered tooth tissues could be implanted into the gum of an edentulous recipient and mature into a functional biological tooth replacement.